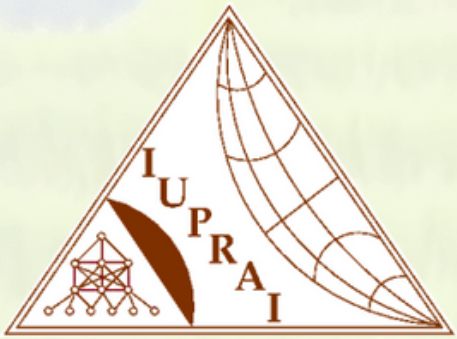


# 3rd Workshop on High-throughput Vision based Phenotyping (HTVP'25)

National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics (NCVPRIPG'2025)

16<sup>th</sup> - 18<sup>th</sup> July, 2025, NIT SRINAGAR



IIT JAMMU

Scope:

The application of methodologies to measure specific organism's (e.g. plant, insect etc.) traits (morphology, growth etc.) related to its structure and function is termed as phenotyping. With the emergence of low-cost and high-resolution multi-modal cameras, acquisition of 2D and 3D data permits high-throughput micro and macro analysis. This is a rapidly growing field at the interface of biology and computer vision (CV) termed-High-throughput Vision based Phenotyping. Agriculture Automation & Information systems nowadays extensively use high speed image sensors along with multi-scale and hyperspectral imaging methods to effectively capture plant traits, facilitating comprehensive monitoring and analysis. Vision-based plant phenotyping encounters difficulties in handling large and intricate data, coping with unpredictable environmental changes, and combining different types of information. Overcoming these challenges requires advanced methods to make sense of the data and help improve crops and farming practices effectively.



## Topics of Interest:

- Detection, multi-scale instance and semantic segmentation.
- Farmland pattern classification, detection, and segmentation from agricultural/phenotyping imagery.
- Resources and dataset benchmarks for agricultural imagery based pattern analysis.
- Data fusion of multi/hyper-spectral image data and multi-modal data sources
- Self, semi, and weakly supervised methods for agricultural/phenotyping imagery
- Vision Language Modelling VLMs for agricultural/phenotyping imagery
- Transfer learning and domain adaptation
- Generative AI for plant/animal/microorganisms phenotyping
- 3D modeling and segmentation, UAV based field phenotyping
- Efficient data sampling methods and learning with limited training data or in presence of noisy, sparse, and imbalanced annotations.
- Computer vision applications which promote the study or adoption of sustainable agriculture

## Important dates:

Paper submission deadline: **10<sup>th</sup> May, 2025**

Paper Acceptance Notification: **5<sup>th</sup> June, 2025**

Workshop Final paper submission: **20<sup>th</sup> June, 2025.**

Workshop author registration deadline: **22<sup>nd</sup> June, 2025**

## Goals of the workshop:

1. This workshop aims to provide a forum to both show current relevant efforts in interdisciplinary areas between computer vision and agriculture, and to encourage further research and conversations within the computer vision community to tackle impactful agriculture-vision problems.
2. Open new avenues for collaboration amongst researchers and agricultural organizations, NGOs, local government bodies and other organizations to enable CV based beneficial research.
3. Define new, quantifiable, and impactful research questions/areas for the CV community.
4. New tools, datasets and projects can be promoted which would interest CV researchers to apply their skills on challenging phenomics problems.

## Call for Papers:

We invite papers from students/academia/industry for the 3rd workshop on High Throughput Vision based Phenotyping at NCVPRIPG 2025 (NIT Srinagar). We invite high-quality papers in the area of plant/animal phenotyping or computer vision for agriculture or on some current ongoing work that presents innovative ideas, methods, and applications in the area of phenotyping using computer vision. We encourage submissions that have interdisciplinary collaborations between machine learning/computer vision and problem domain experts. We especially encourage work where machine learning and in particular representation learning could meaningfully amplify existing efforts for the phenotyping area.

## Organisers

1. Prof. Brejesh Lall, IIT Delhi
2. Dr. Prerana Mukherjee, JNU
3. Prof. Deepak Mishra, IIST Thiruvananthapuram
4. Dr. Vinay Kaushik, IIIT Sonapat
5. Dr. Manoj Sharma, Bennett University
6. Dr. Jit Mukherjee, BIT Mesra, Ranchi
7. Dr. Swati Bhugra, IIT Delhi

Register here:

<https://sites.google.com/jnu.ac.in/htvp2025/home>

Submit your paper here:

<https://cmt3.research.microsoft.com/User/Login?ReturnUrl=%2FNCVPRIPG2025%2FSubmission%2FIndex>